

## SEQUENCE LISTING

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<110> Naoyuki TANIGUCHI et al.
  <120> ALPHA 1-6 FUCOSYLTRANSFERASE
  <130> 2356-7
  <140> 09/839,136
  <141> 2001-04-23
  <150> 09/442,629
  <151> 1999-11-18
  <150> 08/913,805
  <151> 1998-01-07
  <150> PCT/JP97/00171
  <151> 1997-01-23
 <160> 15
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 Met Arg Pro Trp Thr Gly Ser Trp Arg Trp Ile Met Leu Ile Leu Phe
 gcc tgg ggg acc ttg cta ttt tac ata ggt ggt cac ttg gta cga gat
. Ala Trp Gly Thr Leu Leu Phe Tyr Ile Gly Gly His Leu Val Arg Asp
               20
 aat gac cac tot gat cac tot ago oga gaa otg too aag att ttg goa
                                                                     144
 Asn Asp His Ser Asp His Ser Ser Arg Glu Leu Ser Lys Ile Leu Ala
          35
 aag ctg gaa cgc tta aaa caa caa aat gaa gac ttg agg aga atg gct
                                                                     192
 Lys Leu Glu Arg Leu Lys Gln Gln Asn Glu Asp Leu Arg Arg Met Ala
                           55
 gga tot oto oga ata oca gaa ggo oco att gat cag ggg oca got toa
                                                                     240
 Gly Ser Leu Arg Ile Pro Glu Gly Pro Ile Asp Gln Gly Pro Ala Ser
 gga aga gtt cgt gct tta gaa gag caa ttt atg aag gcc aaa gaa cag
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Gly	Arg	Val	Arg	Ala 85	Leu	Glu	Glu	Gln	Phe 90	Met	Lys	Ala	Lys	Glu 95	Gln	
												ggg Gly				336
												gag Glu 125				384
												gaa Glu				432
												gga Gly				480
			_	_	_					_		aca Thr				528
ggt Gly	gat Asp	tgg Trp	cgt Arg 180	gaa Glu	aag Lys	gag Glu	gcc Ala	aaa Lys 185	gat Asp	ctg Leu	aca Thr	gag Glu	ctg Leu 190	gtc Val	cag Gln	576
												agc Ser 205				624
												ggc Gly				672
												acc Thr				720
												gly ggg				768
												aga Arg				816
												aat Asn 285				864
												cct Pro				912
												gta Val				960

305	310	315	320
ggt gat cct gca gtg Gly Asp Pro Ala Val 325	Trp Trp Val Ser	Gln Phe Val Lys Tyr	
cgc cca caa ccc tgg Arg Pro Gln Pro Trp			

cta	ggc	ttc	aaa	cat	cca	gtt	att	gga	gtc	cat	gtt	aga	cgc	aca	gac	1104
Leu	Gly	Phe	Lys	His	Pro	Val	Ile	Gly	Val	His	Val	Arg	Arg	Thr	Asp	
		355					360					365				

																1150
aaa	gtg	gga	gcg	gaa	gca	gcc	ttc	cat	CCC	att	gag	gaa	tac	acg	gtg	1152
Lys	Val	Gly	Ala	Glu	Ala	Ala	Phe	His	Pro	Ile	Glu	Glu	Tyr	Thr	Val	
-	370	-				375					380					

cac	gtt	gaa	gaa	gac	ttt	cag	ctt	ctt	gct	cgc	aga	atg	caa	gtg	gat	1200
His	Val	Glu	Glu	Asp	Phe	Gln	Leu	Leu	Ala	Arg	Arg	Met	Gln	Val	Asp	
385					390					395					400	

aaa	aaa	agg	gtg	tat	ttg	gcc	aca	gat	gac	cct	gct	ttg	tta	aaa	gag	1248
Lys	Lys	Arg	Val	Tyr	Leu	Ala	Thr	Asp	Asp	Pro	Ala	Leu	Leu	Lys	Glu	
				405					410					415		

gca aaa aca Ala Lys Thr								1296
Ard Dyb Inc	420	110 501	425		 F	430		

																1344
Ser	Trp	Ser	Ala	Gly	ьeu	Hls	Asn	Arg	Tyr	Thr	GIU	ASI	ser	ьeu	Arg	
		435					440					445				

ggt Gly										1392
Cry	450	 Lou	110 P	 455	 	 	460			

tgt	act	ttt	tca	tcg	cag	gtc	tgt	aga	gtt	gct	tat	gaa	atc	atg	caa	1440
Cys	Thr	Phe	Ser	Ser	Gln	Val	Cys	Arg	Val	Ala	Tyr	Glu	Ile	Met	Gln	
465					470					475					480	

gcg	ctg	cat	cct	gat	gcc	tct	gcg	aac	ttc	cgt	tct	ttg	gat	gac	atc	1488
Ala																
				485					490					495		

tac	tat	ttt	gga	ggc	cca	aat	gcc	cac	aac	caa	att	gcc	att	tat	cct	1536
Tyr	Tyr	Phe	Gly	Gly	Pro	Asn	Ala	His	Asn	Gln	Ile	Ala	Ile	Tyr	Pro	
			500					505					510			

cac																
His	Gln	Pro	Arg	Thr	Glu	Gly	Glu	Ile	Pro	Met	Glu	Pro	GIY	Asp	тте	
		E1E					520					525				

				~~~	t	<b>a</b> a <b>a</b>	+~~	~~+	~~~	+ - +	cct	222	aat	att	220	1632
															aac	
Ile	Glv	Val	Ala	Gly	Asn	His	Trp	Asp	Gly	Tyr	Pro	Lys	Gly	Val	Asn	
	530			•		535	-	-	-	-	540	_	_			

aga aaa ctg gga agg acg ggc cta tat ccc tcc tac aaa gtt cga gag 1680
Arg Lys Leu Gly Arg Thr Gly Leu Tyr Pro Ser Tyr Lys Val Arg Glu
545 550 555 555 560

aag ata gaa aca gtc aag tac ccc aca tat ccc gag gct gac aag taa
Lys Ile Glu Thr Val Lys Tyr Pro Thr Tyr Pro Glu Ala Asp Lys \*
565 570 575

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315

310

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325
                                   330
Arg Pro Gln Pro Trp Leu Glu Lys Glu Ile Glu Glu Ala Thr Lys Lys
           340
                    345
Leu Gly Phe Lys His Pro Val Ile Gly Val His Val Arg Arg Thr Asp
                           360
Lys Val Gly Ala Glu Ala Ala Phe His Pro Ile Glu Glu Tyr Thr Val
                       375
His Val Glu Glu Asp Phe Gln Leu Leu Ala Arg Arg Met Gln Val Asp
                   390
                                       395
Lys Lys Arg Val Tyr Leu Ala Thr Asp Asp Pro Ala Leu Leu Lys Glu
                                  410
Ala Lys Thr Lys Tyr Pro Ser Tyr Glu Phe Ile Ser Asp Asn Ser Ile
           420
                               425
Ser Trp Ser Ala Gly Leu His Asn Arg Tyr Thr Glu Asn Ser Leu Arg
       435
                           440
Gly Val Ile Leu Asp Ile His Phe Leu Ser Gln Ala Asp Phe Leu Val
                       455
Cys Thr Phe Ser Ser Gln Val Cys Arg Val Ala Tyr Glu Ile Met Gln
                   470
                                       475
Ala Leu His Pro Asp Ala Ser Ala Asn Phe Arg Ser Leu Asp Asp Ile
                                   490
Tyr Tyr Phe Gly Gly Pro Asn Ala His Asn Gln Ile Ala Ile Tyr Pro
           500
                               505
His Gln Pro Arg Thr Glu Gly Glu Ile Pro Met Glu Pro Gly Asp Ile
                           520
                                              525
Ile Gly Val Ala Gly Asn His Trp Asp Gly Tyr Pro Lys Gly Val Asn
                       535
                                          540
Arg Lys Leu Gly Arg Thr Gly Leu Tyr Pro Ser Tyr Lys Val Arg Glu
                  550
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Lys Ile Glu Thr Val Lys Tyr Pro Thr Tyr Pro Glu Ala Asp Lys
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aarsaracna araayggncc
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agagaataat ttqtctqaag catcatgtgt tgaaacaaca gaagtctatt cacctgtgca 120
ctaactagaa acagagttac aatgttttca attctttgag ctccaggact ccagggaagt 180
gagttgaaaa totgaaa atg ogg oca tgg act ggt too tgg ogt tgg att
                   Met Arg Pro Trp Thr Gly Ser Trp Arg Trp Ile
atq ctc att ctt ttt qcc tgg ggg acc ttg ctg ttt tat ata ggt ggt
                                                                   278
Met Leu Ile Leu Phe Ala Trp Gly Thr Leu Leu Phe Tyr Ile Gly Gly
                                 20
cac ttg gta cga gat aat gac cat cct gat cac tct agc cga gaa ctg
                                                                   326
His Leu Val Arg Asp Asn Asp His Pro Asp His Ser Ser Arg Glu Leu
tcc aag att ctg gca aag ctt gaa cgc tta aaa cag cag aat gaa gac
                                                                   374
Ser Lys Ile Leu Ala Lys Leu Glu Arg Leu Lys Gln Gln Asn Glu Asp
ttg agg cga atg gcc gaa tct ctc cgg ata cca gaa ggc cct att gat
Leu Arg Arg Met Ala Glu Ser Leu Arg Ile Pro Glu Gly Pro Ile Asp
                                                              75
                                          70
 60
                     65
cag ggg cca gct ata gga aga gta cgc gtt tta gaa gag cag ctt gtt
Gln Gly Pro Ala Ile Gly Arg Val Arg Val Leu Glu Glu Gln Leu Val
aag gcc aaa gaa cag att gaa aat tac aag aaa cag acc aga aat ggt
                                                                   518
Lys Ala Lys Glu Gln Ile Glu Asn Tyr Lys Lys Gln Thr Arg Asn Gly
             95
                                 100
ctg ggg aag gat cat gaa atc ctg agg agg agg att gaa aat gga gct
                                                                    566
Leu Gly Lys Asp His Glu Ile Leu Arg Arg Arg Ile Glu Asn Gly Ala
        110
                            115
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	gag Glu 125															614
	gaa Glu			_			_		_	_	_			_	_	662
	gga Gly			_				_	_	_						710
_	aca Thr	_		_		_										758
	gaa Glu															806
	agc Ser 205															854
	ggc Gly															902
	acc Thr															950
	ggt Gly															998
	aga Arg															1046
	aat Asn 285															1094
	cct Pro															1142
ctt Leu	gta Val	cga Arg	gtg Val	cat His 320	ggt Gly	gac Asp	cct Pro	gca Ala	gtg Val 325	tgg Trp	tgg Trp	gtg Val	tct Ser	cag Gln 330	ttt Phe	1190
	aaa Lys															1238
gaa	gcc	acc	aag	aag	ctt	ggc	ttc	aaa	cat	cca	gtt	att	gga	gtc	cat	1286

Glu Ala Thr Lys Lys Leu Gly Phe Lys His Pro Val 11e Gly Val His 350  glc Aga cgc aca gac aaa gtg gga aca gaa gct gcc ttc cat ccc att Val Arg Arg Thr Asp Lys Val Gly Thr Glu Ala Ala Phe His Pro IIe 365  gaa gag tac atg gtg cat gtt gaa gaa cat ttt cag ctt ctt gca cgc Glu Glu Tyr Met Val His Val Glu Glu His Phe Gln Lev Leu Ala Arg 385  aga atg caa gtg gac asa saa aga gtg tat ttg gcc aca gat gac cct Arg Met Gln Val Asp Lys Lys Arg Val Tyr Leu Ala Thr Asp Asp Pho 400  tct tta tta aag gag gca asa aca aca aag tac ccc aat tat gaa ttt att Ser Leu Leu Lys Glu Ala Lys Thr Lys Tyr Pro Asn Tyr Glu Phe IIe 415  agg gat aac tct att tcc tgg tca gct gga ctg cac aat cga tac aca gsr Aga att cat ct gt gga gtg att ctg gtc aca at cga tac aca ser Apa Asn Ser IIe Ser Trp Ser Ala Gly Leu His Asn Arg Tyr Thr 430  gaa aat tca ctt cgt gga gtg atc ctg gat ata cat ttt ctc tcc ag Glu Asa Ser Leu Arg Gly Val IIe Leu Asp IIe His Phe Leu Ser Gln 445  gca gac ttc cta gtg tgt act ttt tca tcc cag gtc tgc aga ttac Ala Asp Phe Leu Val Cys Thr Phe Ser Ser Gln Val Cys Arg Val Thr 460  tat gaa att atg caa aca cta cat cct gat gcc tct gca act tc cat Tyr Glu IIe Met Gln Thr Leu His Pro Asp Ala Ser Ala Asp Phe His Asp Chr Yr Glu IIe Met Gln Thr Leu His Pro Asp Ala Ser Ala Asp Dhe His Asp Chr Yr Glu IIe Met Gln Thr Leu His Pro Asp Ala Ser Ala Asp Dhe His Asp Chr Yr Glu IIe Met Gln Thr Leu His Pro Asp Ala Ser Ala Asp Dhe His Asp Cln Tyr Glu IIe Met Gln Thr Leu His Pro Asp Ala Ser Ala Asp Dhe His Asp Cln Tyr Glu Asp Asp IIe Tyr Tyr Tyr Pro Gly Gly Gln Asn Ala His Asp Cln Tyr Glo Asp Asp IIe Tyr	Gl 11	Δls	Th∽	Luc	Tave	Len	Q1++	Dha	T ve~	<b>u</b> ⊹~	D~~	77-7	т1-	01	77-7	u-1 ~	
Val Arg Arg Thr Asp Lys val Gly Thr Glu Ala Ala Phe His Pro Ile 365 370  gaa gag tac atg gtg cat gtt gaa gaa cat ttt cag ctt ctt gca cgc Glu Glu Tyr Met Val His Val Glu Glu His Phe Gln Leu Leu Ala Arg 380 380  aga atg caa gtg gac aaa aaa aga gtg tat ttg gcc aca gat gac cct Arg Met Gln Val Asp Lys Lys Arg Val Tyr Leu Ala Thr Asp Asp Pro 400  400  tct tta tta aag gag gca aaa aca aag tac ccc aat tat gaa ttt att Ser Leu Leu Lys Glu Ala Lys Thr Lys Tyr Pro Asn Tyr Glu Phe Ile 415  agt gat aac tct att tcc tgg tca gct gga ctg cac aat cga tac aca Ser Asp Asn Ser Ile Ser Trp Ser Ala Gly Leu His Asn Arg Tyr Thr 430  gaa aat tca ctt cgt gga gtg atc ctg gat ata cat ttt ctc tct cag Glu Asn Ser Leu Arg Gly Val Ile Leu Asp Ile His Phe Leu Ser Gln 450  gca gac ttc cta gtg tgt act ttt tca tcc cag gtt gga ctg ga gtt act Ala Asp Phe Leu Val Cys Thr Phe Ser Ser Gln Val Cys Arg Val Thr 460  at Ser Asp Asp Asp In His Thr Leu His Pro Asp Ala Ser Ala Ash Phe His 480  tct tta gat gaa atc tac tact tat ttt ggg ggc cag aat gcc cac aat caa  for Tyr Glu Ile Met Gln Thr Leu His Pro Asp Ala Ser Ala Ash Phe His 480  tct tta gat aca ctac tact tat ttt ggg ggc cag aat gcc cac aat cac Ser Leu Asp Asp Tie Tyr Tyr Phe Gly Gly Gln Asn Ala His Asn Gln 500  att gcc att tat gct cac caa ccc cga act gaa gat gaa act cc atg Ile Ala Ile Tyr Ala His Gln Pro Arg Thr Ala Asp Glu Ile Pro Met 510  gaa cct gga gat atc att ggt gtg gc gg aat cat tat gg gat ggc tat Glu Pro Gly Asp Ile Ile Gly Val Ala Gly Asn His Trp Asp Gly Tyr 525  tct aaa ggt gtc aac agg aaa ttg gga agg ac ggc cta tat ccc tcc Ser Lye Gly Val Pro Glu Lye Ile Glu Thr Val Lye Tyr Pro Try Pro Ser 540  gag gct gag aaa taa acg gaa ac acg gca aat gcc cac aca tac ccc Tyr Lye Val Pro Glu Lye Ile Glu Thr Val Lye Tyr Pro Thr Tyr Pro 550  gag gct gag aaa taa acg gaaa acg gcacaaa acgacaaaa tcagttcgac 1965	GIU	чтq		пλя	пÀя	ъeи	чтλ		пÀа	uls	Pro	vai		чтλ	vaı	nis	
Glu Glu Tyr Met Val His Val Glu Glu His Phe Gln Leu Leu Ala Arg 385   385   395   395   386   387   395   387   395   386   387   395   387   388   388   388   389   395   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388   388		Arg					Val					Ala					1334
Arg Met Gin Val Asp Lys Lys Arg Val Tyr Leu Ala Thr Asp Asp Pro 400  tot that the aag gag goa aaa aca aag tac occ aat tat gaa the att att Ser Leu Leu Lys Giu Ala Lys Thr Lys Tyr Pro Asn Tyr Giu Phe File 415  agt gat aac tot att too tgg to goa otg cac aat cac at 225  agt gat aac tot att too tgg to goa otg cac aat cac at 326  Ser Asp Asn Ser Ile Ser Trp Ser Ala Giy Leu His Asn Arg Tyr Thr 430  gaa aat too ott ogt gog gtg atc otg gat ata cat the oto too too 445  gaa aat too ott ogt gog gtg atc otg gat ata cat the oto too at 445  goa gac too other and a ser Leu Arg Giy Val Ile Leu Asp Ile His Phe Leu Ser Gin 445  goa gac too other and of the ser Ser Gin Val Cys Arg Val Thr 465  goa gac too other and o	Glu					His					Phe					Arg	1382
Ser Leu Leu Lys Glu Ala Lys Thr Lys Tyr Pro Asn Tyr Glu Phe Ile 415  agt gat aac tct att tcc tgg tca gct gac cac aat cga tac aca Ser Asp Asn Ser Ile Ser Trp Ser Ala Gly Leu His Asn Arg Tyr Thr 430  gaa aat tca ctt cgt gga gtg atc ctg gat ata cat ttt ctc tct cag Glu Asn Ser Leu Arg Gly Val Ile Leu Asp Ile His Phe Leu Ser Gln 445  gca gac ttc cta gtg tgt act ttt tca tcc cag gtc tgt cga gtt act Ala Asp Phe Leu Val Cys Thr Phe Ser Ser Gln Val Cys Arg Val Thr 460  tat gaa att atg caa aca cta cat cct gat gcc tct gca aac ttc cat Tyr Glu Ile Met Gln Thr Leu His Pro Asp Ala Ser Ala Asn Phe His 485  tct tta gat gac atc tac tat ttt ggg ggc cag aat gcc cac aat caa Ser Leu Asp Asp Ile Tyr Tyr Phe Gly Gly Gln Asn Ala His Asn Gln 505  att gcc att tat gct cac caa ccc cga act gca gat gaa att ccc atg Ile Ala Ile Tyr Ala His Gln Pro Arg Thr Ala Asp Glu Ile Pro Met 510  gaa cct gga gat atc att ggt gtg gct gga aat cat tag gg gg gc ga gat cat tag gat ggc tat Glu Pro Gly Asp Ile Ile Gly Val Ala Gly Asn His Trp Asp Gly Tyr 525  tct aaa ggt gtc aac agg aaa ttg gga agg acg gc cac att acc tcc Ser Lys Gly Val Asn Arg Lys Leu Gly Arg Thr Gly Leu Tyr Pro Ser 540  gag gct gag aaa taa agctcacatg gaagagataa acgaccaaac tcagttcgac 1965	aga Arg	atg Met	caa Gln	gtg Val	Asp	aaa Lys	aaa Lys	aga Arg	gtg Val	Tyr	ttg Leu	gcc Ala	aca Thr	gat Asp	Asp	cct Pro	1430
Ser Asp Asn Ser Ile Ser Trp Ser Ala Gly Leu His Asn Arg Tyr Thr 430  gaa aat to cott ogt gga gtg atc otg gat ata cat ttt otc tot cag Glu Asn Ser Leu Arg Gly Val Ile Leu Asp Ile His Phe Leu Ser Gln 445  gca gac ttc cta gtg tgt act ttt to cag cag gtc tgt cga gtt act Ala Asp Phe Leu Val Cys Thr Phe Ser Ser Gln Val Cys Arg Val Thr 460  tat gaa att atg caa aca cta cat cott gat gcc tott gca acc ttc cat Tyr Glu Ile Met Gln Thr Leu His Pro Asp Ala Ser Ala Asn Phe His 480  tot tta gat gac atc tac tat ttt ggg ggc cag aat gcc cac aat caa Ser Leu Asp Asp Ile Tyr Tyr Phe Gly Gly Gln Asn Ala His Asn Gln 500  att gcc att tat gct cac caa ccc cga act gca gat gaa att ccc atg Ile Ala Ile Tyr Ala His Gln Pro Arg Thr Ala Asp Glu Ile Pro Met 510  gaa cct gga gat atc att ggt gtg gct gga aat cat tgg gat ggc tat Glu Pro Gly Asp Ile Ile Gly Val Ala Gly Asn His Trp Asp Gly Tyr 525  tot aaa ggt gtc aac agg aaa att gga agg acg ggc cta tat coc toc Ser Lys Gly Val Asn Arg Lys Leu Gly Arg Thr Gly Leu Tyr Pro Ser 540  gag gct gag aat taa aggt aac agg aca ggc cac act accc cac att cot Tyr Lys Val Pro Glu Lys Ile Glu Thr Val Lys Tyr Pro Thr Tyr Pro 560  gag gct gag aat taa aggtcacatg gaaggataa acgaccaaac tocattcact 1910				Lys					Lys					Glu			1478
Glu Asn Ser Leu Arg Gly Val Ile Leu Asp Ile His Phe Leu Ser Gln 445  gca gac ttc cta gtg tgt act ttt tca tcc cag gtc tgt cga gtt act Ala Asp Phe Leu Val Cys Thr Phe Ser Ser Gln Val Cys Arg Val Thr 460  tat gaa att atg caa aca cta cat cct gat gcc tct gca aac ttc cat Tyr Glu Ile Met Gln Thr Leu His Pro Asp Ala Ser Ala Asn Phe His 480  tct tta gat gac atc tac tat ttt ggg ggc cag aat gcc cac aat caa Ser Leu Asp Asp Ile Tyr Tyr Phe Gly Gly Gln Asn Ala His Asn Gln 500  att gcc att tat gct cac caa ccc cga act gca gat gaa att ccc atg Ile Ala Ile Tyr Ala His Gln Pro Arg Thr Ala Asp Glu Ile Pro Met 510  gaa cct gga gat atc att ggt gtg gct gga aat cat tgg gat ggc tat Glu Pro Gly Asp Ile Ile Gly Val Ala Gly Asn His Trp Asp Gly Tyr 525  tct aaa ggt gtc aac agg aaa ttg gga agg acg ggc cta tat ccc tcc Ser Lys Gly Val Asn Arg Lys Leu Gly Arg Thr Gly Leu Tyr Pro Ser 540  gag gct gag aaa taa agctcacatg gaagagataa acgaccaaac tcagttcgac  gag gct gag aaa taa agctcacatg gaagagataa acgaccaaac tcagttcgac  1965			Asn					Ser					Asn				1526
Ala Asp Phe Leu Val Cys Thr Phe Ser Ser Gln Val Cys Arg Val Thr 460  tat gaa att atg caa aca cta cat cct gat gcc tct gca aac ttc cat Tyr Glu Ile Met Gln Thr Leu His Pro Asp Ala Ser Ala Asn Phe His 480  tct tta gat gac atc tac tat ttt ggg ggc cag aat gcc cac aat caa 480  tct tta gat gac atc tac tat ttt ggg ggc cag aat gcc cac aat caa 490  tct tta gat gac atc tac tat ttt ggg ggc cag aat gcc cac aat caa 490  att gcc att tat gct cac caa ccc cga act gca gat gaa att ccc atg 1718  att gcc att tat gct cac cac ccc caa act gca gat gaa att ccc atg 1766  Ile Ala Ile Tyr Ala His Gln Pro Arg Thr Ala Asp Glu Ile Pro Met 510  gaa cct gga gat atc att ggt gtg gct gga aat cat tgg gat ggc tat Glu Pro Gly Asp Ile Ile Gly Val Ala Gly Asn His Trp Asp Gly Tyr 525  tct aaa ggt gtc aac agg aaa ttg gga agg acg ggc cta tat ccc tcc Ser Lys Gly Val Asn Arg Lys Leu Gly Arg Thr Gly Leu Tyr Pro Ser 540  tac aaa gtt cca gag aag ata gaa acg gtc aag tac ccc aca tat cct 1910  Tyr Lys Val Pro Glu Lys Ile Glu Thr Val Lys Tyr Pro Thr Tyr Pro 560  gag gct gag aaa taa agctcacatg gaagagataa acgaccaaac tcagttcgac 1965		Asn					Val					His					1574
Tyr Glu Ile Met Gln Thr Leu His Pro Asp Ala Ser Ala Asn Phe His 480  tct tta gat gac atc tac tat ttt ggg ggc cag aat gcc cac aat caa 1718  Ser Leu Asp Asp Ile Tyr Tyr Phe Gly Gly Gln Asn Ala His Asn Gln 500  att gcc att tat gct cac caa ccc cga act gca gat gaa att ccc atg Ile Ala Ile Tyr Ala His Gln Pro Arg Thr Ala Asp Glu Ile Pro Met 510  gaa cct gga gat atc att ggt gtg gct gga aat cat tgg gat ggc tat I814  Glu Pro Gly Asp Ile Ile Gly Val Ala Gly Asn His Trp Asp Gly Tyr 525  tct aaa ggt gtc aac agg aaa ttg gga agg acg gc cta tat ccc tcc I862  Ser Lys Gly Val Asn Arg Lys Leu Gly Arg Thr Gly Leu Tyr Pro Ser 540  tct aaa gtt cca gag aag ata gaa acg gtc aag tac ccc aca tat cct 1910  Tyr Lys Val Pro Glu Lys Ile Glu Thr Val Lys Tyr Pro Thr Tyr Pro 570  gag gct gag aaa taa agctcacatg gaagagataa acgaccaaac tcagttcgac 1965	Ala					Cys					Gln					Thr	1622
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Ile Ala Ile Tyr Ala His Gln Pro Arg Thr Ala Asp Glu Ile Pro Met 510  gaa Cct gga gat atc att ggt gtg gct gga aat cat tgg gat ggc tat Glu Pro Gly Asp Ile Ile Gly Val Ala Gly Asn His Trp Asp Gly Tyr 525  tct aaa ggt gtc aac agg aaa ttg gga agg acg ggc cta tat ccc tcc 1862  Ser Lys Gly Val Asn Arg Lys Leu Gly Arg Thr Gly Leu Tyr Pro Ser 540  tac aaa gtt cca gag aag ata gaa acg gtc aag tac ccc aca tat cct 1910  Tyr Lys Val Pro Glu Lys Ile Glu Thr Val Lys Tyr Pro Thr Tyr Pro 560  gag gct gag aaa taa agctcacatg gaagagataa acgaccaaac tcagttcgac 1965			Asp	Asp					Gly					His			1718
Glu Pro Gly Asp Ile Ile Gly Val Ala Gly Asn His Trp Asp Gly Tyr 525 530 535  tct aaa ggt gtc aac agg aaa ttg gga agg acg ggc cta tat ccc tcc 1862 Ser Lys Gly Val Asn Arg Lys Leu Gly Arg Thr Gly Leu Tyr Pro Ser 540 555  tac aaa gtt cca gag aag ata gaa acg gtc aag tac ccc aca tat cct 1910 Tyr Lys Val Pro Glu Lys Ile Glu Thr Val Lys Tyr Pro Thr Tyr Pro 560 565 570  gag gct gag aaa taa agctcacatg gaagagataa acgaccaaac tcagttcgac 1965	att Ile	gcc Ala	Ile	tat Tyr	gct Ala	cac His	caa Gln	Pro	cga Arg	act Thr	gca Ala	gat Asp	Glu	att Ile	ccc Pro	atg Met	1766
Ser Lys Gly Val Asn Arg Lys Leu Gly Arg Thr Gly Leu Tyr Pro Ser 540 555  tac aaa gtt cca gag aag ata gaa acg gtc aag tac ccc aca tat cct 1910 Tyr Lys Val Pro Glu Lys Ile Glu Thr Val Lys Tyr Pro Thr Tyr Pro 560 570  gag gct gag aaa taa agctcacatg gaagagataa acgaccaaac tcagttcgac 1965	Glu	Pro					Gly					His					1814
Tyr Lys Val Pro Glu Lys Ile Glu Thr Val Lys Tyr Pro Thr Tyr Pro 560 565 570  gag gct gag aaa taa agctcacatg gaagagataa acgaccaaac tcagttcgac 1965	Ser					Arg					Thr					Ser	1862
				Pro	Glu				Thr	Val					Tyr		1910
						agct	caca	tg g	aaga	gata	a ac	gacc	aaac	tca	igtto	gac	1965

caaactcagt tcaaaccatt tcagccaaac tgtagatgaa gagggctctg atctaacaaa 2025 ataaggttat atgagtagat actctcagca ccaagagcag ctgggaactg acataggctt 2085 caattggtgg aattc <210> 10 <211> 575 <212> PRT <213> Homo sapiens Met Arg Pro Trp Thr Gly Ser Trp Arg Trp Ile Met Leu Ile Leu Phe 10 Ala Trp Gly Thr Leu Leu Phe Tyr Ile Gly Gly His Leu Val Arg Asp 25 Asn Asp His Pro Asp His Ser Ser Arg Glu Leu Ser Lys Ile Leu Ala 20 40 Lys Leu Glu Arg Leu Lys Gln Gln Asn Glu Asp Leu Arg Arg Met Ala 55 Glu Ser Leu Arg Ile Pro Glu Gly Pro Ile Asp Gln Gly Pro Ala Ile Gly Arg Val Arg Val Leu Glu Glu Gln Leu Val Lys Ala Lys Glu Gln 70 90 Ile Glu Asn Tyr Lys Lys Gln Thr Arg Asn Gly Leu Gly Lys Asp His 105 Glu Ile Leu Arg Arg Arg Ile Glu Asn Gly Ala Lys Glu Leu Trp Phe 120 Phe Leu Gln Ser Glu Leu Lys Lys Leu Lys Asn Leu Glu Gly Asn Glu 135 Leu Gln Arg His Ala Asp Glu Phe Leu Leu Asp Leu Gly His His Glu 155 Arg Ser Ile Met Thr Asp Leu Tyr Tyr Leu Ser Gln Thr Asp Gly Ala 170 Gly Asp Trp Arg Glu Lys Glu Ala Lys Asp Leu Thr Glu Leu Val Gln 185 Arg Arg Ile Thr Tyr Leu Gln Asn Pro Lys Asp Cys Ser Lys Ala Lys 200 Lys Leu Val Cys Asn Ile Asn Lys Gly Cys Gly Tyr Gly Cys Gln Leu His His Val Val Tyr Cys Phe Met Ile Ala Tyr Gly Thr Gln Arg Thr 215 235 Leu Ile Leu Glu Ser Gln Asn Trp Arg Tyr Ala Thr Gly Gly Trp Glu 250 Thr Val Phe Arg Pro Val Ser Glu Thr Cys Thr Asp Arg Ser Gly Ile 245 265 Ser Thr Gly His Trp Ser Gly Glu Val Lys Asp Lys Asn Val Gln Val 280 Val Glu Leu Pro Ile Val Asp Ser Leu His Pro Arg Pro Pro Tyr Leu 295 Pro Leu Ala Val Pro Glu Asp Leu Ala Asp Arg Leu Val Arg Val His 315 310 Gly Asp Pro Ala Val Trp Trp Val Ser Gln Phe Val Lys Tyr Leu Ile 330 Arg Pro Gln Pro Trp Leu Glu Lys Glu Ile Glu Glu Ala Thr Lys Lys 345 Leu Gly Phe Lys His Pro Val Ile Gly Val His Val Arg Arg Thr Asp

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His Val Glu Glu His Phe Gln Leu Leu Ala Arg Arg Met Gln Val Asp
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Lys Lys Arg Val Tyr Leu Ala Thr Asp Asp Pro Ser Leu Leu Lys Glu
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Ala Lys Thr Lys Tyr Pro Asn Tyr Glu Phe Ile Ser Asp Asn Ser Ile
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Ser Trp Ser Ala Gly Leu His Asn Arg Tyr Thr Glu Asn Ser Leu Arg
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Gly Val Ile Leu Asp Ile His Phe Leu Ser Gln Ala Asp Phe Leu Val
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Cys Thr Phe Ser Ser Gln Val Cys Arg Val Thr Tyr Glu Ile Met Gln
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Thr Leu His Pro Asp Ala Ser Ala Asn Phe His Ser Leu Asp Asp Ile
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Tyr Tyr Phe Gly Gly Gln Asn Ala His Asn Gln Ile Ala Ile Tyr Ala
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His Gln Pro Arg Thr Ala Asp Glu Ile Pro Met Glu Pro Gly Asp Ile
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Ile Gly Val Ala Gly Asn His Trp Asp Gly Tyr Ser Lys Gly Val Asn
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